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STACKS

FTC Suit Dismissed; Attorneys File Appeal

Judge J. Earl Cox, Hearing Examiner for the Federal Trade Commission, dismissed the suit of the FTC against the Florida Citrus Mutual, in which it was charged that Mutual had violated the Fair Trade provisions of the law. Officers and members of Mutual assumed that this would be the end of the litigation. Attorneys for FTC have, however, appealed the decision of the Examiner to the full membership of the FTC. Since that appeal has been upheld, Mutual now loses only its motion to dismiss the action and the case will now proceed to a full trial on its merits with evidence being submitted by both sides.

In dismissing the suit Judge Cox declared that there was no evidence sufficient to sustain the action, and indicated his belief that Mutual was operating in lawful manner for the best interests of Florida citrus growers.

Mutual officers and members express confidence that when the case comes to final hearing the super-cooperative will be found innocent of any wrong doing or any infraction of the anti-monopoly law. The final outcome of the suit will be awaited with much interest by all Florida citrus factors.

**This
Month**

Citrus Insect Control For July, 1953
Report of Florida State Plant Commissioner
Burrowing Nematodes Responsible For Spreading Decline of Citrus
Scraps From My Notebook — Part IV
20th Annual Citrus Growers Institute August 17-21
Florida Citrus Commission Adopts Advertising Program
Mutual Membership Grows; Cancellations Are Few

Vol. 34, No. 7

Bartow, Florida

July, 1953

The best time to control scale is now...

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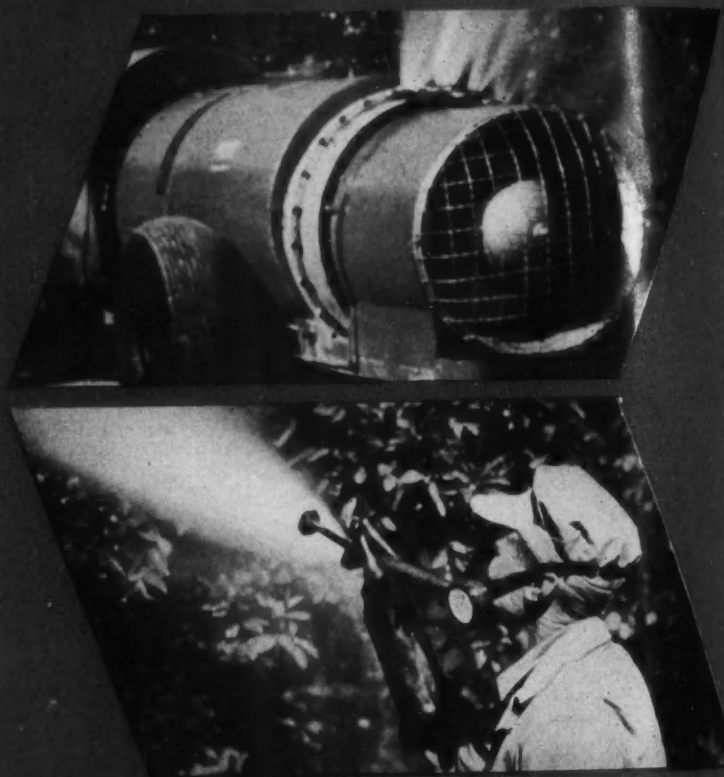
Parathion applied during July and August controls:

RED SCALE
SNOW SCALE
PURPLE SCALE
COTTONY-CUSHION SCALE

A higher percentage of the young stages of these scale insects will be present during these two months. Control obtained at this time will last longer into the Fall than when treatment is made earlier in the year.

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Manufacturers of *Thiophos* Parathion Technical
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WRITE FOR
THE NEW
PARATHION
GROWER'S
HANDBOOK



Citrus Insect Control For July, 1953...

R. M. PRATT AND W. L. THOMPSON*
FLORIDA CITRUS EXPERIMENT
STATION, LAKE ALFRED

CORRECTION

In the article "Citrus Insect Control for June, 1953", which appeared in the last issue of Citrus Industry, a line was omitted from the fifth paragraph, thus combining the discussion of six-spotted mites and mealybugs. The paragraph should have read: "Six-spotted mites have been more than usually abundant this spring, but the damage has not been as great as the number of infestations might indicate. They ARE NOT EXPECTED TO BE A FACTOR IN PLANNING A CONTROL PROGRAM FOR JUNE. MEALYBUGS are abundant and causing fruit drop in some groves in the Indian River District. Where they are abundant, parathion should be used and the application made as soon as possible."

Purple scale activity is at a high level, and while the level is not at present increasing, it is expected that the population will be heavier in late June and early July.

Red scale activity has increased rapidly during the last month. While few groves are heavily infested, an unusually large number of groves—seventy-five percent of those checked—have light to moderate infestations. Although red scale activity has been low through the winter and spring months, it now appears that the summer activity will be at least up to normal.

The peak of purple mite activity has passed, and the average infestation is declining rapidly. In most groves this mite will not be a problem during the summer. However, last year in some areas which did not receive normal summer rainfall, the purple mite problem persisted, and might again in the event of a dry season.

Rust mite activity is increasing rapidly and is at a much higher level than that reached in June in the last two years. There is ample reason to expect a further increase during July, so rust mite control must

not be neglected in planning the scale control program.

Mealybugs have been unusually abundant this spring, but the peak has been reached. Even where they have been abundant it is no longer advisable to spray especially for mealybug control. Heavy natural mortality can be expected and most of the damage has already been done.

Whitefly emergence is at a peak so most of these insects will be in the larval stage, which is easiest to control in early July.

SPRAY PROGRAMS

Scale Control: Most areas have received enough rainfall to permit the application of oil, and both purple and red scale are in a favorable state for control, with from two thirds to three fourths of the scales in the young stages.

Oil may be used at 1.3% actual oil, except on tangerines, where 1% is recommended. Parathion at 1 2/3 pounds plus 5 pounds of wettable sulfur per 100 gallons can be used. Good scale control can also be obtained with a combination of 1 pound of parathion and 3 quarts of oil per 100 gallons.

In groves where no post-bloom scalicide was used, spraying should be completed as soon as possible. If oil is to be used, the application should be completed before July 15 to avoid affecting the solids content of the fruit. If parathion is to be used the summer application may be delayed until late July or August where good scale control was obtained by a post-bloom application.

With the present rapid increase in rust mite infestations there is danger of serious rust mite injury in groves being sprayed with oil. This is especially true of fruit, where complete coverage is seldom obtained. If the rust mite population is above ten percent, the grove should be sprayed or dusted with sulfur first, and the application of oil delayed two to three weeks. However, if the mite population is low, a thorough application of oil will give control for two to four weeks. When a parathion-wettable-sulfur combination is applied, there is of course no problem with rust mite control.

Whiteflies: Control will be ob-

tained with either oil or parathion at this time, since most of the insects will be in the young stage. Thorough coverage of the under sides of the leaves and of sprouts inside the tree is necessary for satisfactory control.

Purple Mites: In most groves the purple mite infestations are declining rapidly. Where they are still present, an oil spray or combination of 3 quarts of oil with parathion will control purple mites.

Rust Mites: Unfortunately, rust mite activity is increasing rapidly at a time when growers would prefer to give their full attention to scale control. If parathion and sulfur is used, the rust mite problem will be disposed of for a time provided application is made before damage occurs. If oil is to be used, an application of sulfur will be necessary before or after the scalicide spray, as already mentioned.

Timely Suggestions —

Experimentation has shown repeatedly that citrus trees sprayed with oil later than July 15 tend to produce fruit with a lower soluble solids and acid content and it is advisable to finish applying oil before this date. Early and mid-season oranges are usually affected to a greater degree than late oranges and grapefruit but all varieties are subject to some lowering of fruit quality by untimely oil applications. These suggestions also apply to oil-parathion mixture where 2 to 3 quarts of oil are used with parathion for scale and purple mite control. Because of the reduced amount of oil used in these mixtures the soluble solids content of the fruit is usually less affected but the July 15 deadline should still be observed if high solids content fruit is desired.

For more detailed information refer to the 1953 "Better Fruit Program" or consult the Citrus Experiment Station at Lake Alfred or Fort Pierce.

Ft. Lauderdale, Fla. — Thirty-six Broward County farmers recently obtained 18 tons of sesbania and hairy indigo seed for planting in vegetable fields, according to County Agent B. E. Lawton.

*Written June 22, 1953. Reports of surveys by Harold Holtsberg, Cocoa; J. W. Davis, Tavares; K. G. Townsend, Tampa; J. H. Weeks, Avon Park; and T. B. Hallam, Lake Alfred.



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Publication office at Bartow, Florida. Entered as second class matter February 16, 1920, at the post office at Tampa, Florida, under act of March 3, 1879. Entered as second class matter June 19, 1933, at the post office at Bartow, Florida, under act of March 3, 1879.

Report Of Florida State Plant Commissioner

As in the past, the work of the State Plant Board was carried on through several departments: Grove Inspection, Quarantine Inspection, Nursery Inspection, Entomology, Tristeza Investigations, and Apiary Inspection. Each department is headed by a chief who functions under the direct supervision of the Plant Commissioner.

The State Plant Board was created in 1915 by legislative action for the purpose of providing a means for the close and frequent inspection of the State's horticultural and agricultural plantings. At a later date, 1919, the Legislature enacted the Florida Bee Disease Law, which delegated to the Board the responsibility of keeping bee diseases under control.

For a number of years following enactment of the Florida Plant Act, the entire time and efforts of the inspectional force were devoted to making regular inspections of citrus and vegetable plantings and nurseries for the purpose of detecting at the earliest possible moment the presence of new and destructive plant pests and diseases. The need for a service of this kind is imperative in an agricultural state such as Florida which, by reason of its geographical location and its vast trade and travel from other parts of the United States and from abroad, is peculiarly exposed to entry of destructive pests and

The report of the Florida State Plant Commissioner, recently submitted to the State Plant Board, will be of much interest to all Florida growers. While the report covers the years from July 1, 1950 to June 30, 1952, the work of the Commissioner for that period contains much valuable information and is therefore printed in full herewith:

diseases.

In recent years there has been an ever increasing demand for the services of the Board's inspectors for activities other than the search for insects and diseases in Florida's groves and vegetable plantings and nurseries. These demands include the inspection of shipments of citrus fruits, treatment of pests and diseases on lawns in city lots and in field crops, and consultation with farmers about their pest control problems.

During the shipping season inspectors are required to examine and, in many instances, supervise the fumigation of citrus fruits destined to points in California and abroad and to certify that they are moving in accordance with the plant quarantine regulations of such State and countries.

The inspection, treatment, and certification of shipments of citrus fruit as indicated in the preceding paragraph must be performed by Plant Board employees under the provisions of the regulations of California and foreign countries. This task cannot be delegated to some other State agency. Inability on the part of the Board to provide these services would result in closing these outlets for Florida's citrus fruits. There is no likelihood that the officials of foreign countries will repeal their regulations, and thus obviate the need for the services of the inspectors. It is the opinion of the Plant Commissioner, however, that the situation with respect to the California regulations might be corrected, without increase of the risk of disseminating injurious plant pests or diseases, following a conference between growers and regulatory officials of the two States, at which conference both parties should be prepared to give and take.

The demand on the part of farmers for the Plant Board to control insects or diseases on their farms is increasing, due, in all probability, to the policy of the Federal Department of Agriculture to extend all kinds of aid to farmers. Federal aid, at one time apparently inexhaustible, is becoming less and less available and as a result of this farmers, accustomed to

receiving aid, are turning to their State pest control organizations for assistance in the control of insects and diseases. There can be no question but that at times farmers are unable to protect their own crops against real injury. In the case of newly introduced pests or diseases, eradication, if at all practicable, and not control is the answer, with the costs being defrayed from State and Federal funds. If, however, the newly introduced pests or diseases are the objects of existing Federal plant quarantines, the entire costs should be assumed by the Federal Government. Federal officials are responsible for the promulgation of prohibitions or restrictions regulating the entry of plant material capable of serving as carriers of injurious plant pests or diseases. The States are without authority to take such action. Federal officials are responsible for the efficient enforcement of such quarantines. If destructive pests or diseases slip into the country as a result of the inadequacy of Federal protective quarantines or the manner of enforcement, the Government should be responsible for their eradication. With regard to outbreaks of the more common Report of Florida State—Cont. pests and diseases on individual farms, the affected farmers should be held responsible for their control. Unfortunately, in many instances such farmers are unable to protect their crops. By reason of governmental supports and high prices paid for farm products, many farmers have expanded their operations and along with such expansion have purchased trucks, tractors, binders, and all other improved farm machinery—except sprayers or dusters for pest and disease control. They, themselves, should correct this condition. Demands for the services of Plant Board inspectors could be further lessened and the amount of pest and disease surveys increased if the Agricultural Extension Service would employ a sufficient number of Extension entomologists and pathologists. Specialists of this kind are an essential part of any agricultural extension organization.

Two events of paramount importance to the State's citrus industry transpired during the biennium. The first was the finding of a mild form of quick decline by Dr. Theodore J. Grant, Pathologist, United States Subtropical Fruit Station, Bureau of Plant Industry,

Soils, and Agricultural Engineering, Orlando, Florida. While the form or strain observed in Florida is apparently a mild one—far less destructive than the type present in South America—it is nonetheless a most unwelcome invader and one that has undoubtedly been responsible for the loss of a number of citrus trees in Florida. A survey of the entire State disclosed that the disease was fairly well distributed throughout the citrus producing areas. This would indicate that the disease has been present for a number of years. It has been observed on the following varieties and rootstocks: Varieties: Sweet orange, Temple orange, and lime. Rootstocks: Sour orange, grapefruit, and Key lime.

Plans for coping with this development include careful surveys for the purpose of delimiting the distribution of quick decline in Florida, its host range, and means for making positive determinations as to the presence or absence of the disease on suspected material collected by the inspectors. It is doubtful if this last named project can be successfully prosecuted with funds and personnel now available for the use of the State Plant Board. Lime seedlings must be used as "guinea pigs" in the determination work. A plot of land from five to ten acres in extent, equipped with an irrigation system, will be needed for the growth and culture of these seedlings. A greenhouse will be needed to propagate the seedlings, and specialized equipment will be required to carry on the tests. Fortunately for the citrus industry, the Director of the Florida Agricultural Experiment Station has provided a heated greenhouse at Gainesville for the use of the Plant Board. This action on the part of the Director is further substantiation of the value of the close association between the Board of Control and the State Plant Board—between the State's research and regulatory organizations.

The second event was the inauguration of a citrus budwood certification program. The purpose of the program is to assist nurserymen and growers to grow citrus nursery trees that are believed to be free from virus and other recognizable bud-transmissible diseases. Participation in the program shall be voluntary on the part of the nurserymen. Registration shall be voluntary on the part of the Plant Commissioner, de-

pending solely on his sincere conviction as to the qualifications of the tree or the applicant. Registration shall not imply any warranty on the part of the State Plant Board or any employee thereof.

Further reference to the certification program is made in the report of the Nursery Inspector, who will be in charge of this activity. If the Board is furnished with adequate funds by the Legislature, it will be able to carry out this program in a creditable manner and furnish the citrus industry with an urgently needed service. If sufficient funds are not provided, the industry will suffer.

The findings of quick decline in Florida, together with the inauguration of the citrus budwood certification program, imposed upon the Board a need for the employment of additional personnel and the purchase of specialized equipment.

PAINT 'TOPPING' WOUNDS OF YOUNG CITRUS TREES TO PREVENT 'GANGRENE'

Growers who plan to set out citrus trees just before the "rainy season" were advised by the Florida Agricultural Extension Service to paint all wounds resulting from cutting back to protect their plantings from a disease known as "gangrene."

"This disease," Citriculturist Fred Lawrence explained, "is not new, but it has become a serious threat of young trees planted just before or during the rainy season. Severe losses have been experienced in some plantings made in late spring or early summer, and growers should paint topping wounds of trunks and branches to protect their young trees."

Dr. J. F. L. Childs of the U.S. Department of Agriculture Horticultural Station, Orlando, has made an intensive study of the disease for several years and has found that it apparently enters citrus trees through wounds made from topping or cutting back the trees prior to transplanting. The disease, also known as "young-tree die-back", sets in at the point of entrance and proceeds down the trunk and may kill the tree to the ground.

The disease has been found most often in young trees set out during the warm period of the year. Painting the topping wounds with asphalt emulsion on the day young trees have been set out has provided good protection against the disease.

Burrowing Nematodes Responsible For Spreading Decline Of Citrus

As the result of prolonged and exhaustive research by R. F. Suit and E. P. DuCharme, scientific workers at the Florida Citrus Experiment Station at Lake Alfred, burrowing nematodes are charged with responsibility for the citrus disease known as spreading decline. First discovery in a Polk county citrus grove in 1930, the disease has spread until now at least 152 groves are known to be affected, mostly in Polk county, although others are located in Highlands, Orange, Lake and Hillsborough counties.

From this important report, the following excerpts are presented herewith.

A typical diseased area consists of a group of trees that are stunted, have fewer and smaller leaves, reduced yield and a lack of feeder roots. Such trees wilt much more readily than healthy trees during dry periods. Trees with spreading decline have been known to remain in an unthrifty condition for over 20 years but do not die unless neglected. A decline area may appear at any point in all directions.

Investigations into the nature, cause, and control of spreading decline were started in 1945. It was found that the disease usually spreads through a grove at the rate of 1 or 2 trees on the margin each year. Such spread occurs up hill or down; without regard to direction of cultivation; under paved, clay or sand roads and railroad tracks where the distance between trees is less than 100 feet; and into adjacent groves. In extensive research work, no experimental evidence was obtained to indicate that spreading decline was the result of either a nutritional deficiency, a soil toxin, a virus disease, or a fungus disease. The deterioration of the feeder root system in spreading decline plus some other characteristics suggested the possibility of nematode infestation and work on nematodes was included in the investigation.

Although the Citrus Nematode had been eliminated as the cause of spreading decline, there was much evidence that another nematode might be the answer. On this

basis, experiments were started on the use of soil fumigants prior to replanting, as early as 1948 and the favorable responses in these experiments gave further corroborative evidence. Later a study of the nematode population in decline and healthy areas in 50 groves showed a significantly higher population in the decline areas as compared to the healthy areas. In the process of this work, a number of plant parasitic nematodes not hitherto reported on citrus and some which had been reported associated with citrus in other areas though not in Florida, were discovered.

August of 1951. On September 7th, a new flush of feeder roots was observed in the decline area. By October 15th brown areas were observed on the feeder roots. By December 7th, all the visible feeder roots were in advanced stages of decay. Root growth in the healthy area was evident by September 17th and no decay of the new feeder roots was noted by December 7, 1951. These results were confirmed by growing sour orange seedlings in decline and healthy soil in small root observation boxes in the greenhouse during the winter.

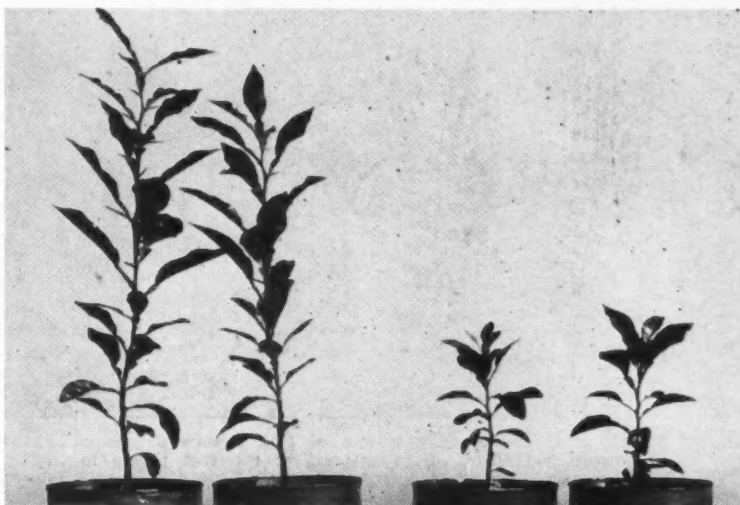


Fig. 1. Growth of sour orange seedlings in cans of subsoil from the healthy area, left, and the spreading decline area, right of Grove S. (Temperature control experiment).

The difficulty lay in the determination of the particular one that was the cause of the decline. One of these, the Burrowing Nematode, *Radopholus similis* (Cobb) Thorne, not hitherto reported on citrus was established as the probable cause. A report on the work with the Burrowing Nematode and a listing of other new nematodes on Florida citrus is given below.

The Burrowing Nematode

Earlier work having been unproductive, root observation boxes were placed in both healthy and decline areas to study the relative feeder root development in the two areas. The boxes were in place in

The progress of the work had always been handicapped by the difficulty of reproducing the disease in pots. In studies involving the growth of citrus seedlings in pots using soil from decline and healthy areas, no apparent differences were noted unless the pots were buried in the soil outside of the greenhouse. The finding that the destruction of the feeder roots of mature trees occurred chiefly below two feet, indicated that the soil temperature had some influence on the casual factor of spreading decline and that in pot experiments on greenhouse benches the soil temperature was

too high. Thermograph records showed that the maximum temperature in the soil at a depth of three feet during the summer was 79°F., while at 6 inches it was 103°F., and the indications were that the high temperatures near the surface might be a limiting factor. To investigate this, two soil temperature tanks were constructed in which the temperature of the soil in pots could be controlled at 74-78°F. Topsoil (0-6") and subsoil (24-30") samples were obtained from the spreading decline and healthy areas of each of four groves and placed in 5-quart cans in the temperature control tank, five cans being set up for each sample. Sour orange seedlings were planted in the cans August 8, 1952. During this ex-

periment, the plants were fertilized each month and watered as necessary. Within six weeks after the seedlings were planted, it was apparent that more of the seedlings growing in the decline sub-soil were making normal growth. The experiment was continued until March 30, 1953. At this time the seedlings growing in the subsoil from the decline areas were much smaller than those growing in the subsoil from the corresponding healthy area. This difference was consistent for all four groves. The difference in top growth is shown in Fig. 1, and the difference in root growth is shown in Fig. 2. In comparison, there was no apparent difference between the seedlings grown in the topsoil from the decline and healthy areas. This was

the first time it had been possible to produce symptoms of spreading decline consistently under experimental conditions. The finding of the brown areas on the feeder roots in the root observation boxes in both the field and greenhouse plus the finding of a greater total nematode population in the spreading decline area as compared to the healthy areas indicated that the lesions might be caused by a nematode. Accordingly feeder roots from trees in the diseased and healthy areas of 11 groves were examined and dissected. In all cases, characteristic lesions were found on the feeder roots from the spreading decline trees and not from the healthy trees. These lesions were usually on

ing the feeder roots of the sour orange seedlings in the temperature control experiment previously discussed was then made and showed that *R. similis*, the Burrowing Nematode, was the only parasitic nematode associated with the plants showing symptoms of spreading decline in the cans. The nematode was found on all the plants growing in subsoil from the decline area of all four groves studied. This constitutes strong evidence that the Burrowing Nematode is the causal agent in the decline.

Investigations were initiated to determine if the Burrowing Nematode was present in all of the groves showing spreading decline. To date, 29 groves have been examined. *R. similis* was found in the diseased area and not in the healthy area in 28 of these groves and has not been found in any of the 26 healthy groves examined. The one failure to find it does not detract from the evidence since sampling is difficult and several samplings are frequently necessary before the Burrowing Nematode is found. Living as it does, in cavities in the rootlet, it is not readily found by the sampling methods used for migratory nematodes.

This is the first report of the natural occurrence under field conditions of *Radopholus similis* (Cobb) Thorne in Florida and the first time that this nematode has ever been reported infesting and causing extensive damage to citrus feeder roots. In this study to date, *R. similis* has been found causing injury to feeder roots of rough lemon, *Citrus limon* (L.) Burmann, sour orange *C. aurantium* L., sweet orange *C. sinensis* (L.) Osbeck and grapefruit *C. paradisi* MacFad. It has not been possible as yet to examine the mandarin group *C. reticulata* for the Burrowing Nematode but results of earlier greenhouse experiments have indicated that it is probably subject to attack. The variety of citrus budded on the rootstock has no apparent influence on the disease.

Field experiments on the control of spreading decline have been in progress since 1948. Preliminary results from some of the experiments have indicated that the treatment of the soil with D-D soil fumigant following the removal of the diseased trees will be beneficial. However, no definite recommendations for the control of this disease can be made at this

(Continued on Page 14)

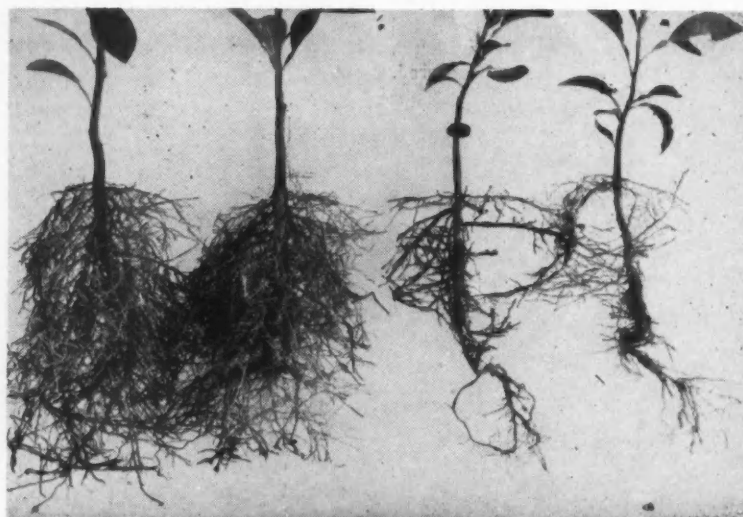


Fig. 2. Deterioration of the root system of sour orange seedlings by the Burrowing Nematode. Root systems of the test plants in Fig. 1. Healthy, left, and infested, right.

perment, the plants were fertilized each month and watered as necessary. Within six weeks after the seedlings were planted, it was apparent that more of the seedlings growing in the decline sub-soil were making normal growth. The experiment was continued until March 30, 1953. At this time the seedlings growing in the subsoil from the decline areas were much smaller than those growing in the subsoil from the corresponding healthy area. This difference was consistent for all four groves. The difference in top growth is shown in Fig. 1, and the difference in root growth is shown in Fig. 2. In comparison, there was no apparent difference between the seedlings grown in the topsoil from the decline and healthy areas. This was

roots less than one-sixteenth of an inch in diameter. Often the location of a lesion or cavity was recognized only by the presence of a small split or hole in the epidermis. Because of the small size of the lesions, the work had to be done with the aid of a dissecting microscope at a magnification of 45x. The Burrowing Nematode, *R. similis*, which is about one-fiftieth of an inch long was found in such lesions, with one to 25 nematodes present in a lesion, depending upon the age and size of the lesion. These lesions initiated the brown areas already mentioned. Further investigation revealed the Burrowing Nematode in lesions and cavities on feeder roots at depths as great as 12 feet.

A study of the nematodes infest-



Scraps From My Notebook...

... By ...

Gray Singleton

Food Technologist, J. William Horsey Corporation

A NEW WAY TO MAKE JELLY

Jelly is one of the most widely used of foods. Nearly everyone likes jelly. But it is one of the most difficult foods to prepare at home. Your Grandmother made jelly on a wood-burning stove in her kitchen. So did your Mother. You probably buy yours at the grocery. As often as not, you are disappointed in the flavor of the jelly that you buy, even though it is the same brand that gave you such delicious flavor on your previous purchase.

If this has happened to you recently, do not blame the merchant. There is nothing that he can do about it. The reason for this great variation in flavor between two glasses of jelly bearing the same brand name lies in the fact that jelly holds its rich, fruity flavor for only a short time after it is prepared. To be sure of having well-flavored jellies they must be freshly made and in small amounts so that they will be consumed before the flavor is lost. The jelly that you now purchase at the store may be excellent if you happen to get a glass that was recently prepared. Three months later the same glass of jelly may be just something sweet, without any of the characteristic fruit flavor which makes fresh jelly so delicious.

The above facts present quite a problem to the housewife whose family likes jelly. The particular fruit that she wishes to use is probably available for only a short season each year. She must make her jelly when the fruit is ready or buy it at the store where it may, or may not, be freshly made.

All commercial manufacturers of jelly know of this loss of flavor and they try to avoid it in two ways: 1. They may pasteurize their fruit juices and store them, usually in five gallon glass containers. They know that fruit juice will retain its characteristic fruit flavor a great deal longer than will jelly. They use this fruit juice along through the year to make up fresh batches of jelly. This

Part IV.

is excellent jelly when first made and would solve the problem if the maker could get the jelly to your table immediately. Too often it stays in the distributor's warehouse until it has lost its flavor before it even gets to the merchant's shelf. On the other hand, most fruit and berry juices will make excellent jelly after two year's storage and guava juice still makes good jelly after three or four year's storage.

2. The second method used by the jelly manufacturer is to freeze his fruit or fruit juice and make up fresh jelly along through the year from these frozen products. He makes good jelly but, again, his problem is to get it to your table before the flavor is lost.

Nothing in the above methods will guarantee that the consumer will get freshly made jelly when she goes to the store. There is, however, a process by which the housewife can always be sure of getting fresh jelly. It is ideal for the small operator who needs only a limited amount of inexpensive equipment and some "know how" to be in the jelly business.

When Grandmother made jelly it was an all-day job and most of it was over a hot stove. The fruit or berries must be gathered, washed, the trash removed and the fruit cooked so that the juice could be pressed out and strained. She now had the juice but it was noon and the perspiration was dripping from her face. After washing the dinner dishes she started to make the jelly. She probably started with half juice and half sugar and boiled the mixture until she had a batch containing about 68% soluble solids, mostly sugar, and she had boiled away most of the fruit flavor and had added an off flavor from the sugar that she had caramelized. Then, if the pectin content of the juice was right, the

acid happened to be present in the proper amount and the mineral content of the juice was adequate the jelly would start to sheet off the spoon and the batch was ready to pour up.

I am not talking about what someone told me. I helped my Grandmother make jelly many times. It was hard, laborious work for both of us. But now better jelly can be made in ten minutes. The manufacturer can make money by getting it ready for the housewife and by doing 95% of the work in a factory. The quickest way to get rich is to find a way to save time and work for the housewife. This is how it is done:

The general idea is that jelly is made by boiling fruit juice with sugar. Modern jelly making is not quite that simple. The fruit juice must have certain qualifications in order that you may be sure that your jelly will jell firmly and that it will meet the standards for fancy jelly. In the first place, you must have the right amount of acid in the juice. This is best measured by the pH of the juice, which is a technical way of saying that the juice must have a certain amount of free hydrogen ions. Unless the proper amount of these free hydrogen ions is present you may make syrup but you will not make jelly. It is easy to test for free hydrogen ions with a pH meter. Good jelly can be made at a pH reading around 3.0 or 3.2.

You must also have pectin in your fruit juice. And you must have the right amount if you want top grade jelly. Too much pectin is just as bad as not enough. All fruits that I have tested have pectin but not many have the right amount to make good jelly. Partly green fruits usually have more pectin than ripe fruit. Overripe fruit has very little. Fully ripe fruit is usually at the peak of flavor but the pectin is lacking to make good jelly. Here the manufacturer can step in and assist nature. He can test the juice with alcohol and then add enough pectin

to be sure of a firm jell.

But we can do all of these things and still not make good jelly. Jelly is really like a lot of tiny sponges tied together with string. The string, or linkage as it is called, is some mineral to which these tiny bits of jelly can attach themselves. They will not attach to each other but will attach to certain minerals. Calcium is one such mineral. Some soils have abundant minerals and the fruit grown on them will make good jelly without the addition of a mineral substance. But a lot of soils are deficient in minerals, particularly sandy soils, and we must again assist nature by adding a small amount of a soluble form of calcium or other suitable mineral. It must not be a mineral that is too quickly soluble or the jelly will set before you can pour it up. Anhydrous monocalcium phosphate is a form of calcium that is just about right; not too fast and not too slow. And it is cheap.

We will suppose that the manufacturer has adjusted the acid, pectin and mineral content of his juice. He can then go ahead and heat it to pasteurization temperature and can it in No. 2 cans, just like any other juice. The housewife can then buy it in the store and add 1½ pounds of sugar to each No. 2 can of juice, bring it to a boil for one or two minutes, long enough to skim it, and then pour it up. She will have six four-ounce glasses of perfect, fresh jelly every time. The flavor is even better than when made the old way because the bouquet and aroma has not been boiled away and the sugar has not been caramelized.

The housewife does not have the equipment to make these tests and adjust the juice content so that it will make good jelly. That is a job for a small manufacturer. He can prepare the juice so that the making of six glasses of jelly is no more trouble to the housewife than cooking a soft-boiled egg.

But let me give a word of warning from experience. Some housewives do not have kitchen scales. Some have scales and do not use them. In order to be sure of getting good jelly you must have exactly the right amount of sugar to balance your acid, pectin and minerals in the juice. Grandmother adjusted her juice by boiling it until everything in it was concentrated. If she was lucky she got about the right amount of everything. Then she got good jelly. Some times she got syrup

Prevatt Renamed President Exchange



The Florida Citrus Exchange, on June 4 named J. B. (Babe) Prevatt of Tavares to his third successive term as president and chairman of the board and seated two new directors.

Simultaneously, another director was added to the board with the creation of Lake Region Packing Association of Tavares as a special Sub-Exchange. Prevatt will represent the new Sub-Exchange with G. B. (Crip) Hurlburt of Mount Dora taking over Prevatt's former seat as representative from Lake County.

New directors seated, in addition to Hurlburt, were John C. Updike of Alcoma Packing Company, Inc., of Lake Wales, replacing his father, A. R. Updike; and R. D. Sage, president of the Winter Haven Citrus Growers Association, replacing G. B. Ayerigg of Winter Haven.

because she had too much or too little pectin or acid.

When I was running consumer acceptance tests on jelly stock prepared as described in this paper I used groups of twenty women in each. In nearly every test eighteen women would report that they had made perfect jelly and two would report that they made syrup and the jelly stock was no good. I followed up all of these failures and they all had the same story. They guessed at the amount of sugar and did not weigh it. One woman said that she put in "about

so much." This was in spite of the warning on the label that the sugar must be accurately weighed in order to make good jelly. If you want to market a product of this kind you will have to package a can of jelly stock along with the right amount of sugar. The housewife can then mix the jelly stock and the sugar and make good jelly instead of guessing at the sugar and making a failure of the jelly.

All citrus fruits make good jelly stock, especially tangerines. After being canned for two years tangerine jelly stock smells worse than old canned orange juice but both lose their off flavor when boiled and skimmed, as in making jelly. If the housewife does not throw the can in the garbage after smelling it she will get jelly that tastes as if the fruit had just been picked from the tree. Either orange or tangerine juice that has acquired the familiar off flavor of old canned juice can be boiled and skimmed and will then taste like freshly canned juice. It will then hold its flavor and will not again take on the characteristic off flavor of old canned juice. The same is true of jelly stock. Old canned orange, grapefruit or tangerine juice can be boiled, skimmed and then recanned and will hold its flavor without going off flavor a second time.

The shelf life of jelly stock prepared as described here is about two years with most fruits. In most cases the pectin is slowly degraded and the methoxy content gets so low during the third year that the stock starts to form lumps of jelly with only the sugar that is in the natural juice. Old jelly stock that shows lumps when opened should be discarded since it will not make a firm jelly.

This jelly stock should make a market for a lot of fruits and berries. We have been using it as Christmas presents for several years and the enthusiastic reception has been amazing. They all want more. They can make six glasses of delicious jelly in ten minutes. Any product that saves the housewife that much time and perspiration will sell at a profit.

Two inches of wet sand on the floor of a truck will enable livestock to keep their footing on the way to market. It is best to haul livestock early in the morning to avoid heat and heavy traffic.

Mutual Membership Grows; Cancellations Received Are Few

LAKELAND, June 25 — Thirty-five growers representing about two percent of the 90,000,000 boxes which Mutual growers produced during the season coming to a close have canceled their contracts through June 18 according to an announcement by Florida Citrus Mutual.

The 35 growers represent only one-half of one per cent of Mutual's numerical membership of approximately 7,000.

Compared to last year, the number of withdrawals through June 18 is small. Mutual revealed that the same time last year, 135 growers had exercised their June withdrawal privilege.

Under the contract a grower signs with Mutual, June is the only month when he can break his membership. Unless a grower chooses to withdraw, his contract remains in force for a period of 10 years.

The total number of boxes represented by those who have withdrawn is similarly small when compared with last year's totals. Growers who have withdrawn this month so far represent 1,913,555 boxes produced on 5,923 acres compared with 4,415,148 boxes on 12,510 acres represented by the number who pulled out last year up to the same date.

In commenting on the withdrawals, Mutual General Manager Bob Rutledge said that the small total represents positive evidence of the regard members feel for Mutual and the highly effective job the organization has accomplished working for their interest during the 1952-53 season.

Rutledge emphasized that some of the corporate growers who have canceled their contracts do so every year as a matter of routine. "They will undoubtedly be back with us as soon as they know what Mutual's policies will be for next season," he said.

"We have an aggressive, hard-hitting program worked out which, added to the experience gained in the past season, will enable us to do an even better job next season for our members," he said.

In addition to the membership totals, Mutual revealed that so far only five packing houses have canceled their handler contracts with Mutual. This compares to 14 for the same period in June last year.

Mutual did not indicate what the

volume of fruit handled by these shippers totals. Their contracts similarly run 10 years, with an annual cancellation privilege.

"Since the end of the month is in sight," Rutledge said, "we believe the 35 growers who have pulled out will represent the bulk. In the past, growers who have wished to cancel their contracts have done so early in the month."

"Half of the 35 withdrawals came during the first few days of June," he asserted. "We will probably get a few more, of course, but I believe that we have the bulk of the cancellations."

In June of 1952, a total of 302 growers withdrew their contracts, taking with them approximately 11,000,000 boxes of production. How-

(Continued On Page 15)

CAUSE and EFFECT



Photographs taken in Nursery and Grove of Lake Garfield Nurseries Co.

The Budwood for Lake Garfield Trees is taken from our own splendid Bearing Groves, which were also planted with Lake Garfield Trees. This along with many other things, including very close personal supervision by the owners, make Lake Garfield Trees superior to ordinary trees. This applies to growing qualities, freedom from diseases and groves that really produce profitable crops.

ORDERS SHOULD BE PLACED EARLY

The very same conditions that cause you to want certain varieties cause the other fellow to want them, and as a result some varieties are usually sold out early in the planting season.

Our service is at your command. We will be pleased to have you contact us by phone, letter or a personal visit.

Lake Garfield Nurseries Co.

P. O. Box 154T

BARTOW - - - - FLORIDA

Day Phone 2-4601

Night 3-1451 or 2-5511

20th Annual Citrus Growers Institute, August 17-21

The 20th Annual Citrus Growers Institute will be held at Camp McQuarrie on August 17 to 21, and it promises to be one of the most noteworthy in the history of the organization, as the following program clearly indicates.

The Citrus Institute is sponsored by the Florida Agricultural Extension Service. Reservations for sleeping accommodations should be made early by writing R. E. Norris, County Agent, Tavares, Florida. There is no charge for sleeping accommodations in the cabins as long as they last but persons wishing to use them must furnish sheets, pillows, towels and other personal effects. There is a reservation fee of \$1.00 per person which is credited on the meals after arrival at camp.

Camp McQuarrie, site of the annual institutes, is located near Astor Park in north Lake County in the Ocala National Forest. Recreation facilities are available and all members of the family may attend.

PROGRAM

Monday, August 17—

R. E. Norris, in Charge

2:00 p.m.-6:00 p.m. — Camp Registration

6:15 p.m. — Supper—Mess Hall

8:00 p.m. — Assembly—Auditorium

Tuesday, August 18—

K. S. McMullen, in Charge

7:45 a.m. — Breakfast—Mess Hall

8:30 a.m. — Announcements—Auditorium

F. S. Perry, Presiding

8:45 a.m. — "Top o' the Mornin'"

—Karl Lehmann, Secretary, Lake County Chamber of Commerce

Opening Remarks — H. G. Clayton, Director, Florida Agricultural Extension Service

"The Present Status of Citrus Rootstock Research" — Dr. F. E. Gardner, Principal Horticulturist, USDA, Orlando

Intermission

"Limes in the Florida Citrus Picture" — Fred P. Lawrence, Citriculturist, Agricultural Extension Service

"Iron and Copper in Citrus Nutrition" — Dr. Paul Smith, Plant Physiologist, USDA, Orlando

12:15 p.m. — Dinner—Mess Hall

Fred P. Lawrence, Presiding

1:30 p.m. — Dedication of Light-foot Road—H. G. Clayton

"Seasonal Changes in Florida

Tangelos" — Dr. Paul L. Harding, senior Horticulturist, USDA, Orlando

"Root Distribution Studies in Sandy Soils" — Dr. Harry W. Ford, Asst. Horticulturist, Citrus Experiment Station

Intermission

"Spreading Decline" — Dr. R. F. Sult, Plant Pathologist, Citrus Experiment Station

4:00 p.m. — Adjourn—Swimming, Boating, Fishing, etc.

6:15 p.m. — Supper—Mess Hall

8:00 p.m. — Auditorium—Evening Entertainment

Wednesday, August 19—

K. S. McMullen, in Charge

7:45 a.m. — Breakfast—Mess Hall

8:30 a.m. — Announcements—Auditorium

M. O. Watskins, Presiding

8:45 a.m. — Top o' the Mornin'—Colin D. Gunn, State Conservationist, U.S. Soil Conservation Service

"Present Fertilizer Recommendations" — Dr. H. J. Reitz, Horticulturist, Citrus Experiment Station

"Effect of Sulfur Applications on pH Control" — Dr. I. W. Wander, Soils Chemist, Citrus Experiment station

Intermission

"Field Identification of Tristeza Disease" — Joe N. Busby, Senior Grove Inspector, State Plant Board

"Tristeza Results and their Effect on the Research Outlook" — Dr. T. J. Grant, Plant Pathologist, USDA, Orlando

12:15 — Dinner—Mess Hall

F. E. Baetzman, Presiding

1:30 — "The Citrus Budwood Certification Program" — Ed. L. Ayers, Commissioner, State Plant Board

"Inspection and Timing in Relation to a Spray Program" — W. L. Thompson, Entomologist, Citrus Experiment Station

Intermission

"Prospects for the Coming Season" — Robert W. Rutledge, Manager, Florida Citrus Mutual

"Citrus By-Products" — J. W. Kesterson, Assoc. Chemist, Citrus Experiment Station

4:00 — Adjourn—Swimming, Boating, Fishing, etc.

6:15 — Entertainment—Auditorium

SPECIAL FEATURE: A Travelogue on Spanish Citrus — Dr. A. F. Camp, Vice-Director, Citrus Experiment Station

Thursday, August 20—

K. S. McMullen, in Charge

7:45 a.m. — Breakfast—Mess Hall

8:30 a.m. — Announcements—Auditorium

Zach Savage, Presiding

8:45 a.m. — Top o' the Mornin'—W. R. (Buster) Hancock, Secretary, Florida Farm Bureau Federation

"Trends in Citrus Fertilization" — Dr. Walter Reuther, Principal Horticulturist, USDA, Orlando

"Hedging Citrus Trees" — R. E. Norris, Lake County Agent

Intermission

"Problem in the Use of Secondary Nutrients for Citrus Production" — Dr. O. C. Bryan, Technical Director, Soil Science Foundation

"The History of Florida Citrus" — Prof. L. W. Ziegler, College of Agriculture

12:15 — Dinner—Mess Hall

Dr. E. W. Cake, Presiding

"The Duties of Your Citrus Commission and What the Commission Means to Your Operations" — J. J. Parrish, Jr., Member, Florida Citrus Commission, Titusville

A Panel on Futures Trading in Citrus — Dr. E. W. Cake, Leader. Members of the Panel: Dr. H. G. Hamilton, Head, Department of Agricultural Economics, Agricultural Experiment Station; John T. Lesley, Gen. Manager, Florida Citrus Exchange; Lacy G. Thomas, grower; G. G. Ware, Chairman of the Board, First National Bank, Leesburg

4:00 p.m. — Adjourn—Swimming, Boating, Fishing, etc.

6:15 p.m. — Supper—Mess Hall

8:00 p.m. — Entertainment—Auditorium

Friday, August 21

7:00 a.m. — Breakfast—Mess Hall
Camp and Institute Adjourn

J. W. MALONE, FORMER COUNTY AGENT DIES

Joseph Wheeler Malone, for 23 years a county agent in four Florida counties before he retired July 31, 1952, died April 5, and was buried April 7, at DeFuniak Springs.

A 1921 graduate of the Alabama Polytechnic Institute, Mr. Malone joined the Florida Agricultural Extension Service March 16, 1929, as county agent in Okaloosa.

Florida Citrus Commission Adopts Advertising Program

A \$2,500,000 advertising program designed to carry the Florida citrus story to millions of American and Canadian consumers in the next 12 months was approved by the Florida Citrus Commission.

After three weeks of conferences with committees representing growers, fresh fruit shippers, and processors, the state agency's advertising committee adopted in substance the recommendations of its advertising agency, the J. Walter Thompson Company of New York, which call for extensive advertising and promotional campaigns in three national magazines, 228 daily newspapers, and on radio and television stations from coast to coast.

However, Robert C. Wooten, Tampa, chairman of the Commission's ad committee, pointed out that the total amount to be spent on consumer advertising during the coming year is subject to the size of the orange, grapefruit, and tangerine crops next season. The Commission's funds are derived from a tax collected on each box of citrus grown in Florida.

Local advertising media will receive the greatest portion of the 1953-54 consumer advertising budget under the present plan, with a total of \$703,150 going into newspapers, \$620,750 into television, and \$120,425 into radio. National magazines—Life, Saturday Evening Post, and Ladies Home

Journal—will take \$770,150 for 23 full page ads and 15 one-half page ads, all in four colors.

A total of \$35,000 will be spent in trade papers, while \$85,000 will be spent to reach the fast-growing market for Florida citrus in Canada. Another \$165,525 will be held for possible rate increases and ad preparation. A final \$300,000, not included in the \$2,500,000 total budget, will be held as uncommitted reserve for emergencies which may arise next season.

Florida's own Miss America, Miss Neva Jane Langley of Lakeland, will be seen featuring grapefruit exclusively on television over 50 stations twice a week for 52 weeks in combination with the Dave Garroway show, "Today." Garroway will also advertise Florida oranges over the same 50 TV stations two additional times a week for 26 weeks, giving Florida citrus a selling message before more than 1,000,000 persons four times a week for six months out of the year.

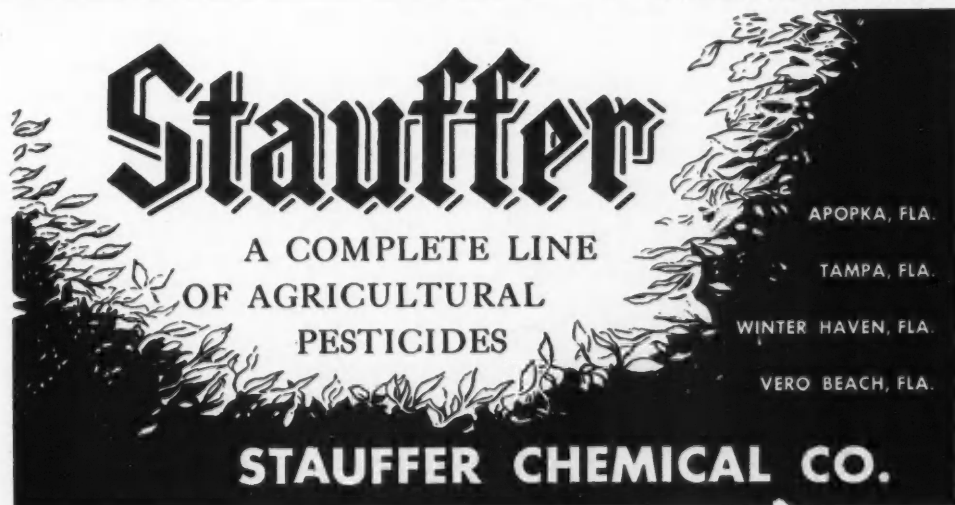
Rocky Mountain and Pacific coast markets will also see Miss America on 20-second spot announcements seven times per week for 13 weeks in a test program to determine the effectiveness of that type of program. Cities which will participate in this campaign will include San Francisco, Los Angeles, Denver, Salt Lake City, Seattle-Tacoma, and Portland.

On radio, the Commission is considering the use of the Meredith Wilson show, "Every Day," which is heard on 49 stations three times a week for 13 weeks. Here oranges would be featured exclusively. Contracts will not be signed for this program, however, until other radio shows which have been suggested have been reviewed as to cost and coverage.

One new gimmick designed to boost the sales of grapefruit during colds and flu season will be the use of the so-called "colds and flu barometer." This service is furnished by the American Newspaper Publishers Association and consists of a weekly check of cold remedy sales in local drug stores. When the newspaper's survey shows patent medicine sales to be at a certain level, it would be immediately authorized to run an advertisement featuring the health benefits of grapefruit and grapefruit juice.

Another added feature of the new advertising campaign will be the use of the popular Nancy Sasser shopping column in 76 newspapers in 48 markets for 13 weeks on oranges and 13 weeks on grapefruit.

Hairy indigo may be planted as a cover crop in citrus groves at any time between March and June. Plant on a well-prepared seedbed and use three to six pounds of seed per acre. More seed are required for broadcasting than for drilling. While not necessary, rolling or packing the seed after planting will result in higher germination.



Stauffer

A COMPLETE LINE
OF AGRICULTURAL
PESTICIDES

STAUFFER CHEMICAL CO.

APOPKA, FLA.
TAMPA, FLA.
WINTER HAVEN, FLA.
VERO BEACH, FLA.

U. S. Report Reduces Citrus Crop Estimate

Uncle Sam chopped 1,000,000 boxes of Valencias off his estimate on June 10 and then told Florida citrus growers next year's crop of early and midseason oranges may be 2,000,000 to 4,000,000 boxes shy of the 73,500,000 harvested this year.

The effect of the report was electric in the citrus belt as it was announced, with many sources feeling the reduction in the estimate was still too small.

Florida Citrus Mutual reported several weeks ago that a sample survey showed 2,000,000 boxes fewer oranges than the May 10 USDA estimate indicated.

While the crop condition report, issued June 1, showed no box figures, the point rating showed 67, which means that next year's early and midseason crop will be about 67 per cent of what it could be if every bearing tree produced its maximum estimated crop.

Estimated Before Rain

That 67 per cent figure however was based on estimates taken before recent heavy rains in the citrus belt, and could very easily stand some adjustment on the basis of that seven-inch fall.

The rating is two points lower than last month's condition report.

The same rating showed production expected to be seven points off last year's, giving rise to the predicted decreased production on early and midseasonal varieties.

Valencias held firm on the condition report, with a two-point drop from last year's 71 per cent, and even that figure could easily be recouped by the recent rains.

Valencias are expected by the USDA to produce about as big a crop as the current 31,500,000 boxes the department estimated.

Biggest Cut

Tangerines received the biggest cut in anticipated production, with the percentage point on the tangerine condition report down from 66 last year to 57 this year, with the figures again estimated on the basis of USDA surveys.

While the estimate was being cut—and some think it is due another cut next month—the New York auction market reported a record \$7.89 price paid there per box for 9½ cars of interior oranges, with a car of Indian Rivers



Richard D. Jackson

bringing \$8.03.

The interior figure reportedly was the highest paid for this time of year in at least 10 years, possibly ever, since records beyond the 10-year period are not available.

At the same time Mutual reported delivered in oranges are bringing up to \$2.50.

With reference to the condition report, the grapefruit picture held fairly firm, with a report of 69 handed down, only one point below last month's 70, and slightly higher than the 67 points to which last season's June 1 figure climbed. Both figures are lower than the record 75 reported in 1950-51.

BURROWING NEMATODES RESPONSIBLE FOR SPREADING DECLINE OF CITRUS

(Continued from Page 8)

time. Since the nematodes have been found as deep as 12 feet, a thorough fumigation which will kill all the nematodes will be extremely difficult. Work on soil fumigants is being intensified.

The obvious solution of such a problem would be the use of a resistant rootstock. The only favorable clue in this field is the finding of one tree in each of three different decline areas which has escaped the disease. The stocks of these three are being propagated for further study. A large number of miscellaneous rootstocks

R. D. Jackson Named Director Feed Assn.

Richard D. Jackson, President and General Manager of Jackson Grain Company in Tampa, was elected to the Board of Directors of the American Feed Manufacturers Association. The election of 10 new Board members was conducted by nationwide balloting of the membership by mail. Jackson's term will be for three years.

Jackson has been active in the Feed Industry for more than 20 years. He has many other diversified business and community interests. He is a Director of the Peninsular Telephone Company, The First National Bank of Tampa, and the Tampa Southern Railway Company. He is also a Director of the Florida State Fair. He has served as President of the Florida Feed Dealers Association, The Greater Tampa Chamber of Commerce, and the Tampa Traffic Association. He has served as Vice President of the Grain and Feed Dealers National Association.

He is a member of the Rotary Club and other fraternal and civic groups.

not commonly used commercially are also being tested.

The finding of a control for a nematode of this type will not be easy. Little is known concerning its host range or its susceptibility to chemical treatment. The depth to which it occurs is bound to greatly complicate the problem of soil treatment.

Other parasitic nematodes found associated with citrus feeder roots

In addition to the Burrowing Nematode many other kinds of nematodes were observed in association with citrus feeder roots in the samples obtained from numerous groves. Among the general groups of nematodes commonly found were the Dorylaimidae, but the majority of these are not known to be parasitic. Besides these and the Burrowing Nematode, *R. similis*, eight other plant parasitic nematodes were found in many instances to be associated with citrus feeder roots in Florida.

Cannibalism in sows with young pigs usually is caused by lack of animal protein in feed for the sows.

On Guard Against Alien Plant Pests . . .

E. R. SASSCER

BUREAU OF ENTOMOLOGY AND
PLANT QUARANTINE

Insects destroy more than 3 billion dollars worth of our farm crops every year. Plant diseases take millions more. But these losses would be much greater if we had no safeguards against the introduction and spread of destructive insect and plant-disease immigrants.

Our safeguards are the plant-quarantine laws, which authorize the Secretary of Agriculture to regulate the entry and interstate movement of insects and carriers of insects and plant diseases.

To enforce these laws, the Bureau of Entomology and Plant Quarantine has a well-trained corps of plant-quarantine inspectors. They are stationed at maritime and border ports of entry, where they examine baggage, boxes, plants, food—anything that might harbor a plant pest. They scrutinize airplanes, trains, automobiles, parcel post packages. Last year, for example, they inspected 80,000 planes and 50,000 ships. One out of every four carried plant contraband. Approximately 15,000 interceptions of insects and plant diseases were made.

Some of our worst pests have been with us a long time—before our quarantine laws were enacted. The gypsy moth, for example, was brought from Europe in 1869 by an amateur entomologist in an attempt to interbreed it with the silkworm. Chestnut blight, which has completely destroyed our valuable American chestnut trees, came from Asia before 1904. The common barberry, which carries stem rust of grain, was brought from Europe in colonial times as an ornamental plant. The oriental fruit moth, a pest of peaches and other fruit, came over in the Japanese cherry trees that blossom colorfully each spring around the Tidal Basin in Washington, D. C.

But thanks to plant quarantines, many equally destructive pests of agriculture have been kept out of the country. The durra stem borer, a native of southern Europe and Africa potentially more damaging

than the corn borer, could ruin our corn and sorghum crops. The citrus blackfly is just over the border to the south; citrus trees heavily infested with this insect bear little marketable fruit. Fruit-flies from the Orient, Mediterranean countries, and the South Pacific are all potential threats to our fruit and vegetable crops.

In spite of our organized vigilance, some serious plant pests have succeeded in getting through. When this happens, the domestic quarantine system can go into action to eradicate them or prevent their spread. The Mediterranean fruit-fly and citrus canker, both of which threatened our citrus industry, were eradicated. The gypsy moth has been confined to a relatively small area in the northeastern U. S. for many years.

Quarantine regulations make it possible for private and Government importers to bring in under adequate safeguards huge quantities of plants and plant materials.

In 1951, for example, we imported more than half a billion bulbs and nearly 4½ million items of nursery and greenhouse stock valued at more than 10 million dollars. Cooperation has steadily improved, as shippers, packers, travelers, and the general public have become more aware of our foreign and domestic quarantine laws and the inspections necessary to enforce them.

Our country is entitled to the best possible protection against the introduction or spread of destructive crop pests.

MUTUAL MEMBERSHIP GROWS; CANCELLATIONS ARE FEW

(Continued From Page 11)

ever, Mutual figures revealed that 326 new members had been signed from July 1, 1951 to July, 1952, showing a net gain in membership with a total of 6,625 growers.

At the beginning of June this year, Mutual had 6,812 members, 187 more than on June 1, last year.

Mutual is conducting a vigorous membership drive this month, coinciding with the cancellation period, which is expected to bring in many more new members than the number who withdraw.

EMJEO

(80/82% MAGNESIUM SULPHATE)

Many years a favorite source of soluble magnesia for Florida soils. Used extensively in fertilizer mixtures for citrus crops and vegetables. Especially useful and economical for direct application where only magnesia is required. Florida growers know the reasons why magnesium is needed so ask your fertilizer manufacturer for EMJEO, long a dependable source of this key plant food.

POTNIT

(95% Nitrate of Potash)
equivalent to

13% Nitrate Nitrogen and 44% K₂O
for Special Mixtures and Soluble Fertilizers

BERKSHIRE CHEMICALS, INC.

420 Lexington Avenue, New York 17, N. Y.

SALES AGENTS FOR F. W. BERK & COMPANY, INC.

. Magnesium .

. For a Full Harvest .

Mr. Sasscer, head of USDA plant quarantine, has directed various phases of this program since 1912.

ADVERTISEMENT — LYONS FERTILIZER COMPANY

The LYONIZER

Department

COMPILED BY THE LYONS FERTILIZER COMPANY

Reports Of Our Field Men . . .

PASCO AND HILLSBOROUGH COUNTIES

E. A. McCartney

The vegetable deal is about over as of June 22nd. There are still a few valencia oranges to move but most have been sold. Prices since June 1 have been going up but it was so late in the season that most of valencias had been sold. Some growers who held their fruit did very well. Grapefruit also did well.

We are about through with the summer application of fertilizer. Rains the past two weeks have been beneficial and there is a good crop set for next season with the exception of some early and mid-season fruit. This is spotty and hard to determine the results at this time. Considerable June bloom is showing up so this may change the picture.

Rust mite and six-spotted mite have been giving trouble but are now mostly under control. Growers in this section as a rule are fairly free of scale. This is a result of the care they have given the trees, however, July and August will see spray rigs in operation.

SOUTH POLK, HIGHLANDS, HARDEE & DESOTO COUNTIES

C. R. Wingfield

The rains that came during the early part of June brought relief from the drouth that had become serious where no irrigation was available. In the more distressed groves there was a droppage of both foliage and fruit. The continued rains have brought the trees out and appear to be in good condition at this time. There is beginning to appear in some groves the indication that there will be some late bloom.

As the new fruit begins to size, which is very good at this time, it would appear that there will be a better crop than was first indicated. However, I will contend that the midseason fruit crop is below normal production.

With the fertilizer application just about over we find the insects have been busy. Rust mite and scale population is very high and careful attention should be given to their control. Where both are

a factor the combination of Sulfur and Parathion would be advisable. This is especially true where early fruit and early maturity is desired. Oil will used where maturity is not a factor. We should watch the temperatures carefully where oil is used.

NORTH CENTRAL FLORIDA

V. E. Bourland

We have been having wet weather, although we've been having some rain lately, and it was appreciated by all the growers, and ranchers. Groves are looking fine, and fruit is sizing good. There seem to be more fruit showing up now than before, and there are some June blooms showing in some groves.

Insects all have been very active, but most of the growers have been very busy after them. Cover crops are coming nicely.

POLK AND HIGHLANDS COUNTIES

J. T. Griffiths and J. K. Enzor, Jr.

The early part of June saw sufficient rain in Polk County so that most growers ceased irrigating. Since that time moisture conditions have been very good over the whole area.

Rust mite have increased at a very high rate in almost all groves over the past month. Many of these groves have been or should be treated with sulfur if oil or parathion sprays are not to be applied until mid-July.

Scale populations are still on the increase and most groves should receive a scalicide this summer.

Most all groves have received their summer fertilizer application and growers are beginning to think about dolomite requirements. A soil test should be taken and dolomite applied where it is needed.

NORTH HILLSBOROUGH AND PINELLAS COUNTIES

J. A. Hoffman

Rains have been fairly general throughout this section and the summer application of fertilizer has been completed and many groves are beginning to put on a flush of summer growth. Fruit is

sizing up nicely and everyone should be on the alert to control the ever increasing infestation of rust mite, as at this time of year they increase very rapidly.

Summer sprays for scale are now underway and should be completed by the last of this month.

WEST CENTRAL FLORIDA

J. E. Mickler

The rains this past month came as a vast relief to the harried and beset citrus men, cattlemen and farmers. What, if any, damage was done by the dry spell is undetermined, but anxious moments were spent waiting for relief.

This past season for citrus in this area was very good. Prices were good, the growing season has been good, and there has been no serious insect or scale worry. Fertilizer programs have changed to the extent that groves look the best in years, and with the continued care crops in this section will be plentiful and of good quality.

SOUTHWEST FLORIDA

Eaves Allison

Rains of from 2 to 4½ inches early in June brought relief throughout this area from the drouth which was beginning to affect many groves.

The last of the Valencias are being picked now—June 16th—some having brought \$1.75 on the tree, with the last, grim, holders-on receiving around \$2.10 per box. However, natural losses such as droppage, etc. cut down the final take so that the man who sold early may be just as well off.

Scale infestations seem to be a little heavier this year, also white fly populations are pretty thick in spots. Some groves in this area showing signs of 'metals toxicity', especially those which have had the best fertilization programs according to the best knowledge at the time. It looks like an application of chelated iron will correct this condition, along with the elimination of copper and manganese from the fertilizer as soon as the trees show any signs of 'iron chlorosis'. This must be carefully watched where those two "secondaries" have been used in the quantities deemed proper in the past.

ADVERTISEMENT — LYONS FERTILIZER COMPANY

**Uncle Bill Says:**

Was a lookin' through the paper the other day to see if they wasn't sumpin' we could write about in this effusion that'd be different from our usual line of thought . . . so we read some headlines that said they is a big rebellion in East Germany where the Germans is gittin' fed up with the sort of "brotherly love" the Russians has been givin' 'em . . . then they was another that said truce in Korea may be a long way off, while another reported that wild scenes of grief marked the funeral of the Rosenberg's who was sentenced to death fer givin' or sellin' some of our atomic bomb secrets to the Russians . . . then they was stories of tragic tornadoes and storms over the land and a lot of other stuff tellin' about the troubles of the world . . .

But we didn't see any reports of no really serious troubles here in Florida . . . so while we got a mite depressed about seein' these stories about troubles over the world, when we stopped to think how lucky we was bein' right here in Florida, which they ain't no doubt is the garden spot of the world, we figured that maybe we sometimes overestimated some of the troubles which we have to combat in raisin' crops and in producin' citrus.

Can't git away from the fact that these troubles can be pretty rough but mighty few folks in Florida have to go around hungry and without the proper clothes . . . and most of us has got at least an old run down automobile that'll git us where we're goin' and bring us back home . . . so we jist naturally can't git over the feelin' that us folks who are lucky enough to live in Florida is got more than our full share of blessin's.

We even noted lately that while the past legislature, like all other legislatures, spent more money than they figgered on that there is every prospect of having a nice tidy sum in the bank at the end of the year without havin' to levy any more taxes.

Pretty good place this Florida . . . we're glad it's our home.

USDA Seeks Farm Opinion on Programs

Farm programs based on suggestions of farmers themselves are the goal of a procedure made public by Secretary of Agriculture Ezra Taft Benson.

Secretary Benson said he has forwarded letters to representatives of major farm organizations, the land-grant colleges and experiment stations, and other agricultural groups over the country requesting their judgments and views on what are sound principles upon which farm programs should be based. These relate to such problems as price supports, commodity marketing, and foreign trade.

The Secretary indicated information would be furnished members of the Congress as legislation is considered, many of whom have requested "grass roots opinion" on farm problems.

"We have had fine response from groups over the entire country," the Secretary said. "I have designated six of my top staff members as a committee to prepare a preliminary digest of the reports received, for presentation to the National Agricultural Advisory Committee at a meeting called for June 29."

The national committee reviewed the procedure before the work was started and in the coming meeting will advise on how best to carry forward the work.

Chairman of the Department committee is Under Secretary True D. Morse. Members are: Assistant Secretary J. Earl Coke; R. E.

Short, director of the Foreign Agricultural Service; John H. Davis, president of the Commodity Credit Corporation; R. L. Farrington, acting director of Agricultural Credit Services; and Richard D. Aplin, director of Departmental Administration. Don Paarlberg, assistant to the Secretary, is serving as secretary of the group.

In addition, there are some 15 groups made up of Department employees studying various phases of present and proposed farm programs. A review is being made of the hundreds of letters and reports

that have been received from farmers and others offering suggestions and making recommendations.

The Secretary pointed up the non-partisan approach to this farm program study. More than 100 work groups throughout the United States will be participating. These work groups are made up of staff members of colleges of agriculture, experiment stations, farm organizations, agricultural foundations, and research organizations.

"Our objective," Secretary Benson declared, "is to get the best judgments from the vast reservoir

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A CORRECTION

In the article "The First Citrus Juice Extractors," by Mr. C. C. Street, which appeared in the June issue of The Citrus Industry, there was a serious error in the list of officers and directors of Florida Fruit Products Company, Inc. This list should have read: "E. C. Stuart, Bartow, Chairman of the Board; J. W. Sample, Haines City, President; Dr. Mart Sample, Haines City, Vice-President; J. F. Angle, Sr., Treasurer; C. E. Street, Secretary and General Manager."

We deeply regret this error which was purely one of the typographical blunders which occasionally occur without apparent explanation.

ciation, Haines City, Florida.

Second Vice-President, Phil Peters of Winter Garden Citrus Growers Assn., Winter Garden, Florida.

Third Vice-President, Lt. General J. C. Hutchison, Sanford, of J. C. Hutchison & Company.

Treasurer, R. D. Robinson of Dr. P. Phillips Cooperative, Orlando, Florida.

Reappointed at the meeting were the following:

Gordon Stedman, secretary-mana-

ger, Orlando-Winter Park.

Mrs. Jane B. Hunter, assistant secretary-assistant treasurer, Orlando.

Thos. E. Haile, traffic manager, Orlando.

Sale of the Leesburg Freezer Corporation, at Leesburg, for \$1,325,000 to Teachers' Insurance & Annuity Ass'n. of America was announced recently by C. H. Pitts of Leesburg, local manager.

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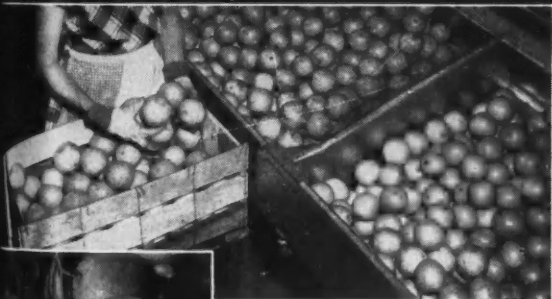
New Officers Chosen By Growers-Shippers League

At the thirtieth annual meeting of the Growers and Shippers League of Florida held in Orlando on June 1, the following new officers were elected:

President, S. O. Chase, Jr., of Chase & Company, Sanford.

First Vice-President, R. V. Phillips of Haines City Citrus Growers Asso-

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EARLY



MANY, MANY TREES GROW IN FLORIDA...

Not long ago a certain author made quite a name in literature by writing a book titled "A Tree Grew in Brooklyn" . . . the title was sufficiently unique to attract attention and the book was well worth reading . . . but here in Florida where there are many, many trees and more of them citrus than any other variety we are more concerned over developing fine crops from these citrus trees than we are in reading books about them.

And all Florida Growers know that in order to produce fine trees and other fine crops it is necessary to see that they are provided with the proper quantities of the right sort of plant food . . . and throughout the years a vast number of growers over the state have learned that Lyons Fertilizers do just that sort of a job. The results have been so uniformly outstanding that we again recite the fact that

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